

This listing of claims replaces all prior claim listings for this application.

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Claims 1-29. (Canceled)

Claim 30. (Currently Amended) A vascular prosthetic comprising:

at least two fixed tissue valvular conduits, each of said conduits having an inflow end and an outflow end and a valve of fixed tissue housed therein;

wherein each of said conduits is joined at a seam including a plurality of stitches forming a smooth inner lumen at an angle of less than about 30 degrees adjacent said inflow ends and upstream of each of said valves to form a single inflow end with a cross-sectional area larger than the cross-sectional area of any of the inflow ends of said valvular conduits.

Claim 31. (Previously Added) The vascular prosthetic of claim 30 wherein the single inflow end is suitable for attachment to a heart to receive blood from the right ventricle.

Claim 32. (Previously Amended) The vascular prosthetic of claim 30 wherein the valvular conduits comprise first and second outflow ends, wherein at least one outflow end is suitable for attachment to a pulmonary trunk.

Claim 33. (Previously Added) The vascular prosthetic of claim 32 wherein the first and second outflow ends are suitable for attachment to first and second pulmonary arteries.

Claim 34. (Previously Amended) The vascular prosthetic of claim 30 wherein the valve of each valvular conduit opens at pressures as low as about 1 mm Hg and remains sealably closed so as to withstand backflow pressures greater than about 200 mm Hg.

Claim 35. (Previously Added) The vascular prosthetic of claim 30 wherein the cross-sectional area of the inflow end of the vascular prosthetic is greater than about 22 mm.

Claim 36. (Previously Added) The vascular prosthetic of claim 30 wherein the cross-sectional area of the inflow end of the prosthetic is greater than about 28 mm.

Claims 37-38. (Canceled)

39. (withdrawn) The vascular prosthetic of claim 30 wherein each of the valvular conduits is further joined adjacent their outflow ends and downstream of each of the valves to form a single outflow end of the vascular prosthetic.

40. (withdrawn) The vascular prosthetic of claim 39 wherein a second seam joins the at least two valvular conduits adjacent their outflow ends and downstream of each of the valves to form the single outflow end of the vascular prosthetic.

41. (withdrawn) The vascular prosthetic of claim 39 wherein the single inflow end is suitable for attachment to the right ventricle and the single outflow end is suitable for attachment to a pulmonary trunk.

Claims 42-51. (Canceled)

Claim 52. (Currently Amended) The vascular prosthetic of claim ~~51~~ 30 wherein the stitches are formed in a single pass.

Claim 53. (withdrawn) The vascular prosthetic of claim 51 wherein the stitches are formed in more than one pass.

Claim 54. (withdrawn) The vascular prosthetic of claim 51 wherein the stitches are applied such that the stitches will not unravel when neighboring stitches are severed.

Claim 55. (withdrawn) The vascular prosthetic of claim 51 wherein the stitches include discrete stitches.

Claim 56. (withdrawn) The vascular prosthetic of claim 30 wherein the seam includes a biological sealant.

Claim 57. (withdrawn) The vascular prosthetic of claim 30 wherein the seam includes a chemical sealant.

Claim 58. (withdrawn) The vascular prosthetic of claim 30 wherein the seam is formed by laser beam radiation.

Claim 59. (Canceled)

Claim 60. (Previously Added) The vascular prosthetic of claim 30 wherein the fixed tissue conduits are fixed by an aldehyde.

Claim 61. (withdrawn) The vascular prosthetic of claim 30 wherein the fixed tissue conduits are fixed by gamma radiation.

Claim 62. (Previously Added) The vascular prosthetic of claim 30 wherein the fixed tissue conduits are fixed by a polyepoxy compound.

Claim 63. (Currently Amended) A vascular prosthetic comprising:

two valvular conduits of chemically fixed biological tissue, each of said conduits having an inflow end and an outflow end and a valve housed therein;


wherein each of said conduits is joined at a seam, including a plurality of stitches forming a smooth inner lumen, at an angled slice of less than about 15 degrees adjacent said inflow ends and upstream of each of said valves to form a body having a single inflow end and a pair of legs each having an outflow end; the single inflow end with a cross-

sectional area larger than the cross-sectional area of either of the inflow ends of said legs, said legs and said body forming a "Y" shape.

Claim 64. (Previously Added) The vascular prosthetic of claim 63 wherein the single inflow end is suitable for attachment to a heart to receive blood from the right ventricle.

Claim 65. (Previously Added) The vascular prosthetic of claim 63 wherein the valvular conduits comprise first and second outflow ends, wherein at least one outflow end is suitable for attachment to a pulmonary trunk.

Claim 66. (Previously Added) The vascular prosthetic of claim 65 wherein the first and second outflow ends are suitable for attachment to first and second pulmonary arteries.

 Claim 67. (Previously Added) The vascular prosthetic of claim 63 wherein the valve of each valvular conduit opens at pressures as low as about 1mm Hg and remains sealably closed so as to withstand backflow pressures greater than about 200 mm Hg.

Claim 68. (Previously Added) The vascular prosthetic of claim 63 wherein the cross-sectional area of the inflow end of the vascular prosthetic is greater than about 22 mm.

Claim 69. (Previously Added) The vascular prosthetic of claim 63 wherein the cross-sectional area of the inflow end of the vascular prosthetic is greater than about 28 mm.

Claims 70-72. (Canceled)

Claim 73. (Currently Amended) The vascular prosthetic of claim ~~72~~ 63 wherein the stitches are formed in a single pass.

Claim 74. (withdrawn) The vascular prosthetic of claim 72 wherein the stitches are formed in more than one pass.

Claim 75. (withdrawn) The vascular prosthetic of claim 72 wherein the stitches are applied such that the stitches will not unravel when neighboring stitches are severed.

Claim 76. (withdrawn) The vascular prosthetic of claim 72 wherein the stitches include discrete stitches.

Claim 77. (withdrawn) The vascular prosthetic of claim 63 wherein the seam includes a biological sealant.

Claim 78. (withdrawn) The vascular prosthetic of claim 63 wherein the seam includes a chemical sealant.

Claim 79. (withdrawn) The vascular prosthetic of claim 63 wherein the seam is formed by laser beam radiation.

Claim 80. (Canceled)

Claim 81. (Previously Added) The vascular prosthetic of claim 70 wherein the fixed tissue conduits are fixed by an aldehyde.

Claim 82. (withdrawn) The vascular prosthetic of claim 70 wherein the fixed tissue conduits are fixed by gamma radiation.

Claim 83. (withdrawn) The vascular prosthetic of claim 70 wherein the fixed tissue conduits are fixed by a polyepoxy compound.

Claim 84. (Currently Amended) A vascular prosthetic comprising:

an inflow conduit comprising a manifold formed from the sealed attachment of a plurality of donor valved blood vessels, the sealed attachment including a plurality of stitches forming a smooth inner lumen, each of said blood vessels housing a biological valve

integral therewith, said blood vessels configured to permit the flow of blood therethrough by the valve opening at a relatively low pressure and configured to prevent the backflow of blood therethrough by the valve closing so as to withstand relatively high pressures, said manifold formed at a luminal angle of less than about 30 degrees upstream of each of the biological valves so as not to interfere with the effective operation of the biological valves, the inflow conduit with a cross-sectional area larger than the cross-sectional area of either of the inflow ends of each of the donor blood vessels, and an outflow conduit positioned downstream of each of the biological valves.

Claim 85. (Previously Added) The vascular prosthetic of claim 84 wherein the inflow conduit is suitable for attachment to a heart to receive blood from the right ventricle.

f Claim 86. (Previously Added) The vascular prosthetic of claim 84 wherein the donor blood vessels comprise first and second outflow ends, wherein at least one outflow end is suitable for attachment to a pulmonary trunk.

Claim 87. (Previously Added) The vascular prosthetic of claim 86 wherein the first and second outflow ends are suitable for attachment to first and second pulmonary arteries.

Claim 88. (Previously Added) The vascular prosthetic of claim 84 wherein the valve of each donor blood vessel opens at pressures as low as about 1mm Hg and remains sealably closed so as to withstand backflow pressures greater than about 200 mm Hg.

Claim 89. (Previously Added) The vascular prosthetic of claim 84 wherein the cross-sectional area of the inflow conduit of the vascular prosthetic is greater than about 22 mm.

Claim 90. (Previously Added) The vascular prosthetic of claim 84 wherein the cross-sectional area of the inflow conduit of the vascular prosthetic is greater than about 28 mm.

Claim 91. (Previously Added) The vascular prosthetic of claim 84 wherein the plurality of donor blood vessels are chemically fixed biological tissue.

Claims 92-93. (Canceled)

Claim 94. (Currently Amended) The vascular prosthetic of claim ~~93~~ 84 wherein the stitches are formed in a single pass.

Claim 95. (withdrawn) The vascular prosthetic of claim 93 wherein the stitches are formed in more than one pass.

Claim 96. (withdrawn) The vascular prosthetic of claim 93 wherein the stitches are applied such that the stitches will not unravel when neighboring stitches are severed.

Claim 97. (withdrawn) The vascular prosthetic of claim 93 wherein the stitches include discrete stitches.

Claim 98. (withdrawn) The vascular prosthetic of claim 84 wherein the sealed attachment includes a biological sealant.

Claim 99. (withdrawn) The vascular prosthetic of claim 84 wherein the sealed attachment includes a chemical sealant.

Claim 100. (withdrawn) The vascular prosthetic of claim 84 wherein the sealed attachment is formed by laser beam radiation.

Claim 101. (Canceled)

Claim 102. (Previously Added) The vascular prosthetic of claim 91 wherein the plurality of donor blood vessels are fixed by an aldehyde.

Claim 103. (withdrawn) The vascular prosthetic of claim 91 wherein the plurality of donor blood vessels are fixed by gamma radiation.

Claim 104. (withdrawn) The vascular prosthetic of claim 91 wherein the plurality of donor blood vessels are fixed by a polyepoxy compound.

Claim 105. (Previously Added) The prosthetic of claim 84 wherein the plurality of donor blood vessels each comprise a vein segment.

Claim 106. (Previously Added) The prosthetic of claim 105 wherein the plurality of donor blood vessels each comprise the jugular vein of a donor quadruped or marsupial.

Claim 107. (Previously Added) The prosthetic of claim 106 wherein the valved blood vessels each comprise the jugular vein of a donor caprine, cervine, canine, ovine, bovine, equine or marsupial.

Claim 108. (Currently Amended) A vascular prosthetic comprising:

at least two fixed tissue valvular conduits, each of said conduits having an inflow end and an outflow end and a valve of fixed tissue housed therein, each of said conduits comprising the jugular vein of a donor quadruped or marsupial;

wherein each of said conduits is joined by stitches to form a smooth inner lumen with a luminal angle of less than about 30 degrees adjacent said inflow ends and upstream of each of said valves to form a single inflow end with a cross-sectional area larger than the cross-sectional area of any of the inflow ends of said valvular conduits.

Claim 109. (Previously Added) The vascular prosthetic of claim 108 wherein the single inflow end is suitable for attachment to a heart to receive blood from the right ventricle.



Claim 110. (Previously Added) The vascular prosthetic of claim 108 wherein the valvular conduits comprise first and second outflow ends, wherein at least one outflow end is suitable for attachment to a pulmonary trunk.

Claim 111. (Previously Added) The vascular prosthetic of claim 108 wherein the first and second outflow ends are suitable for attachment to first and second pulmonary arteries.

Claim 112. (Previously Added) The vascular prosthetic of claim 108 wherein the valve of each valvular conduit opens at pressures as low as about 1 mm Hg and remains sealably closed so as to withstand backflow pressures greater than about 200 mm Hg.

Claim 113. (Previously Added) The vascular prosthetic of claim 108 wherein the cross-sectional area of the inflow end of the vascular prosthetic is greater than about 22 mm.

Claim 114. (Previously Added) The vascular prosthetic of claim 108 wherein the cross-sectional area of the inflow end of the vascular prosthetic is greater than about 28 mm.

Claim 115. (Previously Added) The vascular prosthetic of claim 108 wherein the fixed tissue conduits are fixed by an aldehyde.

Claim 116. (withdrawn) The vascular prosthetic of claim 108 wherein the fixed tissue conduits are fixed by gamma radiation.

Claim 117. (withdrawn) The vascular prosthetic of claim 108 wherein the fixed tissue conduits are fixed by a polyepoxy compound.

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